DOCUMENT RESUME

ED 326 589 UD 027 616

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TITLE Education Evaluation Report, Chapter 1. Executive Summary.
INSTITUTION Delaware State Dept. of Public Instruction, Dover.
PUB DATE Mar 90
NOTE 22p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Compensatory Education; *Educationally Disadvantaged; Elementary Secondary Education; Mathematics Achievement; Program Effectiveness; *Program Evaluation; Public Education; Reading Achievement; Special Needs Students; *Supplementary Education
IDENTIFIERS *Education Consolidation Improvement Act Chapter 1; Elementary Secondary Education Act Title I; *Sustaining Effects Survey

ABSTRACT

This report describes and evaluates the effectiveness of programs in Delaware funded under Chapter 1 of the Education Consolidation and Improvement Act. Where possible, Delaware program findings are compared to those of the Sustaining Effects Study, a federally funded national study of the precursor of Chapter 1, Title I of the Elementary Secondary Education Act. Findings of this study include the following: (1) males and minorities were disproportionately represented; (2) a substantial and consistent achievement gap exists between Chapter 1 and regular students; (3) achievement scores of students who were in the program for at least 2 years showed about average achievement gains with the exception of grade 3 mathematics, where there was a loss of 11 NCE points; (4) achievement gains of students "promoted out" of the program rose in total reading and fell in total math and basic battery, while those of students retained in the program fell in all areas; (5) students in nonpublic Chapter 1 mathematics programs showed greater achievement gains than those in reading programs; and (6) overall, Chapter 1 achievement gains seemed to be most pronounced in the primary grades. The report includes nine tables, five graphs, and an appendix listing 17 nonpublic Delaware schools in which remedial services are provided. (AF)

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EDUCATION EVALUATION REPORT
CHAPTER 1

EXECUTIVE SUMMARY

Chapter 1 is a federal program that provides substantial fiscal assistance to help districts serve the needs of educationally deprived children. Specifically, the intent of the program is "to improve the educational opportunities of educationally deprived children by helping (them) succeed in the regular program, attain grade-level proficiency, and improve achievement in basic and more advanced skills." To this end, local districts received $10,954,662 in FY'89 to provide supplemental instruction to 9,801 students.

Most of the instructional effort of Chapter 1 is directed to remediating the reading deficiencies of primary grade students. Teacher aides are the primary Chapter 1 service providers and account for 65.9 percent of all program personnel. Teachers are the secondary service providers and account for 25.7 percent of the program's personnel.

Findings of this study were for the most part similar to those of the national Sustaining Effects Study of Title I, the precursor of Chapter 1. They were:

- Males and minorities were disproportionately represented.
- A substantial and consistent achievement gap existed between Chapter 1 and regular students. Regular student scores are approximately one standard deviation higher.
- Achievement scores of students who were in the program for at least two years showed about average achievement gains with the exception of grade three mathematics where there was a loss of 11 NCE points.
- Achievement scores of students "promoted out" of the program were consistently higher than those of students retained in the program. Except for reading, a decline in scores of the "promoted out" group was noted between third and fourth grade.
- Students in nonpublic Chapter 1 mathematics programs showed greater achievement gains than those in reading programs.
- Overall, Chapter 1 achievement gains seemed to be most pronounced in the primary grades.

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March 1990

BACKGROUND

The Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, P.L. 100-297, were signed into law on April 28, 1988. One of the principal themes of this legislation was "to promote access to quality education for educationally deprived students." In keeping with this theme, the Act reauthorized Chapter 1 of the Education Consolidation and Improvement Act of 1981.

Part A of this Act provides financial assistance to local school districts to help meet the needs of educationally deprived children. The purpose of such assistance is "to improve the educational opportunities of educationally deprived children by helping (them) succeed in the regular program, attain grade-level proficiency, and improve achievement in basic and more advanced skills."

To this end, federal regulations require local school districts to conduct an annual needs assessment to identify public and nonpublic students within the confines of their attendance areas who are educationally deprived. Further, the assessment must identify the instructional areas and grade levels which will serve as the focal point for the district's expenditure of Chapter 1 funds.

Local school districts are also required to evaluate the effects of their Chapter 1 programs. Although given reasonable latitude on outcome measures - teacher judgments, grades, retention rates, and so on - attention is directed to the purpose of the program, that is, "to help educationally deprived children succeed in the regular program of the LEA." Clearly, it is incumbent upon districts to determine the extent to which Chapter 1 gains may translate into improved performance in the regular school program.

Evaluation Purpose

The purpose of this evaluation is to provide information on public and nonpublic Chapter 1 programs in the State. Specifically, the evaluation will provide data on identified students, service areas, personnel and fiscal resources. Additionally, achievement test scores are provided as one measure of program effects.

The Chapter 1 program that serves only students attending nonpublic schools in the Christina, Red Clay, and Colonial school district attendance areas will be described. This program provides remedial services to educationally disadvantaged students in mobile vans that move between school sites. This method of service delivery was a result of the U.S. Supreme Court's 1985 Aguilar v. Felton decision. Here the court ruled that publicly funded instruction at religious school sites violated the constitutional prohibition against the entanglement of government and religion. Hence, it was necessary to provide all such services at off site locations.

PUBLIC PROGRAM

This part of the report details certain aspects of the public program. Some nonpublic data is also included, however, as it cannot be disaggregated from reports submitted to the Department of Public Instruction.

Student Demographics

This section provides demographic information on public and nonpublic students enrolled in Chapter 1 programs. Table 1 shows the number of public and nonpublic Chapter 1 students enrolled by grade and the percentage of that

enrollment to total grade enrollments in the respective systems; Table 2 shows the number and percent of public and nonpublic students enrolled by district attendance areas, the federal funds allocated to serve those students, and per pupil allocations; and Table 3 provides the combined sex and race of public and nonpublic students enrolled in the Chapter 1 programs by attendance area.

TABLE 1
DELAWARE PUBLIC AND NONPUBLIC
CHAPTER 1 ENROLLMENTS BY GRADE
1988-89

Grade	Chapter 1 Public Enrollment*	% of Total Grade Enrollment	Chapter 1 Nonpublic Enrollment	% of Total Grade Enrollment	Total Chapter 1 Enrollment	% of Total Grade Enrollment
Pre-Kindergarten	43	14.6	0	0	43	14.6
Kindergarten	1200	15.2	44	2.0	1244	12.4
First	2357	25.8	112	6.1	2469	22.6
Second	1409	17.1	140	8.0	1549	15.5
Third	1110	14.1	122	6.9	1232	12.8
Fourth	1071	14.1	107	6.6	1178	12.8
Fifth	717	10.1	66	4.2	783	9.0
Sixth	538	7.7	40	2.6	578	6.8
Seventh	263	3.7	13	0.9	276	3.2
Eighth	277	4.0	12	0.8	289	3.5
Ninth	70	0.9	0	0	70	0.7
Tenth	33	0.4	0	0	33	0.3
Eleventh	27	0.4	0	0	27	0.3
Twelfth	30	0.4	0	0	30	0.3
Totals	9145	9.4	656	3.0	9801	8.2

*New Castle County Vo-Tech end of year data has not been submitted to the Department of Public Instruction.

As Table 1 shows, the major thrust of both public and nonpublic Chapter 1 programs is at the elementary level. Pre-kindergarten through fourth grade enrollments alone account for 78.7 percent of the total enrollment. Middle school, grades five through eight, and high school enrollment is significantly less, 19.7 percent and 1.6 percent respectively.

TABLE 2
1988-89
PUBLIC AND NONPUBLIC ATTENDANCE AREA ENROLLMENTS
PROGRAM ALLOCATIONS AND PER PUPIL ALLOCATIONS

Attendance Area	Chapter 1 Public Enrollment	% of Total Public Enrollment	Chapter 1 Nonpublic Enrollment	% of Total Nonpublic Enrollment	Program Allocation	Allocation Per Pupil Enrolled
Appoquinimink	77	3.4	0	0	$ 111,357	$1,446
Brandywine	598	5.2	91	2.5	1,177,206	1,709
Caesar Rodney	414	6.5	0	0	448,900	1,084
Cape Henlopen	352	9.8	0	0	326,127	926
Capital	892	14.7	9	0.9	925,472	1,027
Christina	1,601	9.4	182	5.7	2,174,649	1,220
Colonial	1,066	11.3	176	7.9	1,029,826	829
Delmar	75	12.6	0	0	59,165	789
Indian River	899	14.1	0	0	688,330	766
Lake Forest	473	15.0	0	0	398,168	842
Laurel	230	12.1	0	0	242,430	1,054
Milford	745	21.5	0	0	455,800	612
New Castle Co VoTech*	-	-	-	-	138,473	-
Red Clay	950	6.6	198	1.9	2,039,429	1,777
Seaford	343	10.5	0	0	285,722	833
Smyrna	147	5.0	0	0	203,302	1,383
Woodbridge	283	17.0	0	0	250,306	884
Totals	9,145	9.4	656	3.0	$10,954,662	$1,110

*New Castle Co Vo-Tech end of year data has not been submitted to the Department of Public Instruction.

As Table 2 shows, there are large percentage differences among public Chapter 1 enrollments to total district enrollments. These range from three percent in Appoquinimink to 21 percent in Milford. Wide variability also exists in allocations per pupil enrolled between districts, ranging from $1,777 in Red Clay to $612 in Milford. Allocation per pupil enrolled differences are the result of the Federal disbursement of Chapter 1 funds to districts based on an index of poverty -- the number of children receiving financial assistance under the Aid to Families with Dependent Children Program -- rather than academic need, the number of children the local program chooses to serve, personnel expenditures, and other program differences.

TABLE 3
1988-89
PUBLIC AND NONPUBLIC ATTENDANCE AREA
CHAPTER 1 ENROLLMENTS
BY SEX AND RACE

District	Sex		Race					
	Male	Female	AI	Asian	Black	Hispanic	White	Total
Appoquinimink	41	36	0	0	18	0	59	77
Brandywine	355	334	1	9	381	16	282	689
Caesar Rodney	216	198	0	0	135	10	269	414
Cape Henlopen	198	154	0	0	153	16	183	352
Capital	462	439	4	7	462	26	402	901
Christina	958	825	0	23	834	71	855	1,783
Colonial	699	543	9	7	442	20	764	1,242
Delmar	47	28	0	1	18	0	56	75
Indian River	485	414	6	13	395	27	458	899
Lake Forest	279	194	0	2	128	8	335	473
Laurel	127	103	0	1	74	1	154	230
Milford	430	315	2	0	328	22	393	745
New Castle Co VoTech*	-	-	-	-	-	-	-	-
Red Clay	592	556	0	6	431	296	415	1,148
Seaford	208	135	0	2	159	2	180	343
Smyrna	93	54	0	1	31	3	112	147
Woodbridge	150	133	0	0	128	3	152	283
Totals	5,340	4,461	22	72	4,117	521	5,069	9,801

*New Castle County Vo-Tech end of year data has not been submitted to the Department of Public Instruction.

Table three's demographics provide some interesting program insights. First, there are approximately 9 percent more males than females in the program. Second, when compared to State enrollments, American Indians, Hispanics, and Blacks are over represented in relation to their total school population - .05, 2.8, and 18.5 percent respectively. Asians and Whites, on the other hand, are underrepresented - 0.90 and 20.4 percent respectively.

Service Areas

This section provides data on public and nonpublic Chapter 1 enrollments by instructional and support service areas. Figure 1 shows public enrollments by service area; Figure 2 shows nonpublic enrollments by service area; and Figure 3 shows combined enrollments by service area.

Figure 1
Chapter I Public Service Area Enrollments

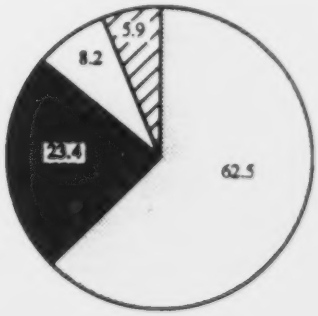


Figure 2
Chapter I Nonpublic Service Area Enrollments

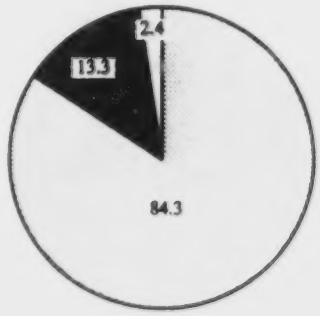
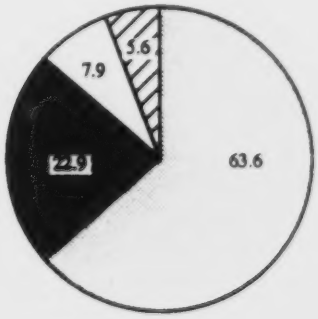
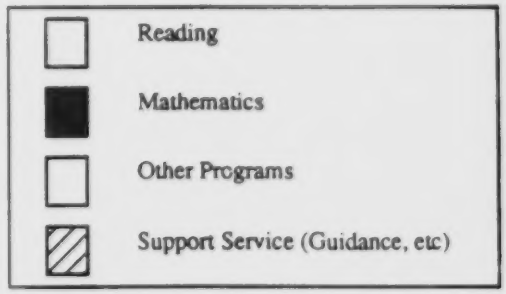


Figure 3
Chapter I Combined Service Area Enrollments



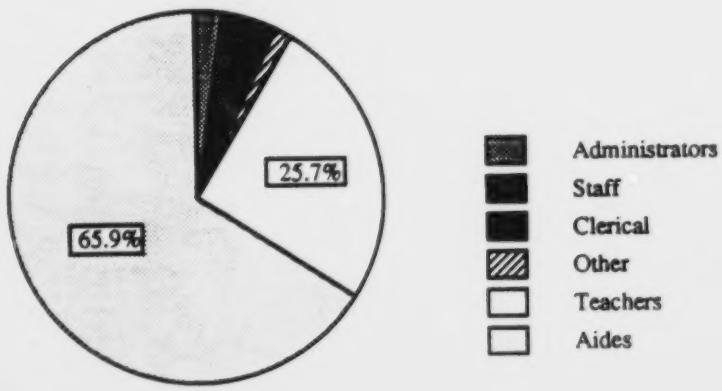


Given the schools' emphasis on literacy and numeracy, it is not surprising that reading and mathematics instruction account for 86.5 percent of the combined program enrollments. Remedial reading instruction is the focal point of all programs and accounts for 63.6 percent of the combined program enrollments. The remaining service areas account for only 13.5 percent of the combined program enrollments.

Personnel

This section provides data on public school personnel employed through Chapter 1 funds. Figure 4 shows the percentage of full-time equivalent program personnel employed by job classification.

Figure 4
Public School Chapter 1 Personnel (FTE)
Percentages By Job Classification
1988-1989



As shown, teacher aides account for the largest personnel classification, 65.9 percent, with teachers a distant second at 25.7 percent. The remaining categories, including administration, account for only 8.4 percent of the total personnel employed through Chapter 1 funds. The figures indicate that most of the personnel employed through Chapter 1 funds interact directly with students.

Budget

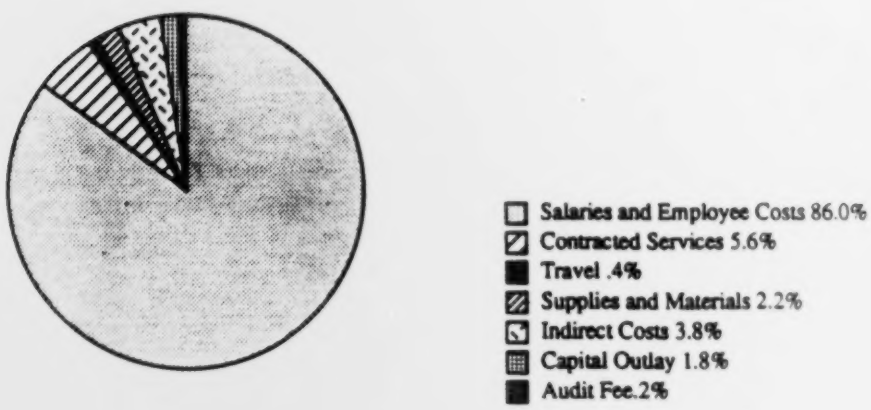
Table 4 provides district budgeted expenses for 1988-1989 classified by account while Figure 5 presents the same data in a graphic format.

TABLE 4
1988-1989
BUDGET EXPENDITURE ACCOUNTS

District	Salaries & Employee Costs	*Contracted Services	Travel	Supplies & Materials	Indirect Costs	Capital Outlay	Audit Fee	Total Budget
Appoquinimink	$ 90,846	$ 2,100	$ 500	$ 9,992	$ 4,096	$ 3,600	$ 223	$ 111,357
Brandywine	920,933	81,775	8,308	34,855	55,612	73,369	2,354	1,177,206
Caesar Rodney	403,722	105	1,502	9,243	16,500	16,930	898	448,900
Cape Henlopen	325,475	0	0	0	0	0	652	326,127
Capital	794,314	35,439	3,800	25,618	52,450	12,000	1,851	925,472
Christina	1,850,978	167,963	6,000	47,205	93,454	4,700	4,349	2,174,649
Colonial	851,329	90,510	9,729	26,500	44,698	5,000	2,060	1,029,826
Delmar	38,178	10,500	120	4,615	2,457	3,177	118	59,165
Indian River	636,051	3,000	1,630	9,221	23,851	13,200	1,377	688,330
Lake Forest	358,698	4,885	1,794	15,825	13,470	2,700	796	398,168
Laurel	235,713	0	400	300	5,532	0	485	242,430
Milford	395,286	8,799	145	1,550	15,895	33,213	912	455,800
New Castle Vo-Tech	98,518	11,567	1,335	5,364	7,614	13,798	277	138,473
Red Clay	1,735,465	191,231	8,538	41,610	54,166	4,340	4,079	2,039,429
Seaford	269,525	1,068	0	0	14,558	0	571	285,722
Smyrna	189,628	2,200	1,500	2,500	4,457	2,610	407	203,302
Woodbridge	229,197	0	292	6,112	11,709	2,495	501	250,306
Totals	$9,423,856	$611,142	$45,593	$240,510	$420,519	$191,132	$21,910	$10,954,662

*Includes contracts for services to nonpublic school pupils.

Figure 5
Budget Expenditure Accounts



As shown, the primary budgeted expense was for salaries and employee costs. This one area accounts for 86 percent of the total budgeted expenses. The second major expense area was contracted services which accounts for 5.6 percent of the total. Much of this expense is directed to the nonpublic school programs in New Castle County. The remaining areas account for only 8.4 percent of the total budgeted expenditures.

Effects

This section provides one measure of program effects obtainable at the State level, namely student performance on the State Assessment Tests. It does not give consideration to program effects that may influence the affective domain, self-esteem for example, nor does it provide other measures of student success such as grades or passing rates.

Achievement test scores, however, provide a measure of a student's mastery of basic skills that are important to school success and are a required federal measure of program effects. They are therefore useful in determining the extent to which Chapter 1 programs help educationally deprived children succeed in the regular school program.

Achievement test scores were reviewed from three different perspectives. First, test scores of all Chapter 1 students and nonChapter 1 students, referenced as regular students, were compared to see if the achievement gap between the two groups had narrowed over time. Second, pre (spring 1987) and post (spring 1988) test scores of students remaining in elementary Chapter 1 programs during those two years were compared to note their growth across grades. Third, test scores of 1986-87 second grade Chapter 1 students were followed for three years to note longitudinal

achievement differences in a specific group of students. Here, the achievement scores of students retained in the program were compared to those who were "promoted out."

Table 5 provides basic battery (NCE.BB), total math (NCE.TM), and total reading (NCE.TR) 1989 Stanford Achievement Test scores of all Chapter 1 students identified on the state database[1], scores of regular students, and the achievement gap between the two.

TABLE 5
COMPARISON OF NCE.BB, NCE.TM AND NCE.TR SCORES
BETWEEN CHAPTER 1 AND REGULAR STUDENTS
GRADE 1 TO 8 AND 11

	Chapter 1						Regular						Achievement Gap		
	NCE.BB		NCE.TM		NCE.TR		NCE.BB		NCE.TM		NCE.TR				
Grade	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	NCE.BB	NCE.TM	NCE.TR
1	1676	33.6	1857	33.9	1767	36.6	6239	54.1	6511	54.8	6414	52.3	20.5	18.2	18.4
2	1140	38.3	1249	40.4	1177	37.7	6172	56.2	6511	55.3	6296	55.1	17.9	14.9	17.4
3	870	35.9	955	36.8	931	36.0	5925	56.0	6313	54.3	6189	55.3	20.1	17.5	19.3
4	891	35.1	922	36.5	932	33.7	5995	54.4	6177	52.9	6218	53.1	19.3	16.4	19.4
5	606	32.2	648	32.4	638	34.0	5818	53.4	5983	51.5	6045	53.1	21.2	19.1	19.1
6	447	33.1	468	34.6	474	33.3	5789	51.8	6009	49.9	6067	52.6	18.7	15.3	19.3
7	183	32.1	197	34.8	197	33.6	5858	50.7	6170	50.2	6261	51.3	18.6	15.4	17.7
8	132	34.4	140	38.1	139	34.3	5748	51.1	6066	50.8	6149	51.3	16.7	12.7	17.0
11	32	32.1	34	38.5	33	30.9	4840	51.7	5059	51.3	5050	51.8	19.6	12.8	20.9

Note: The Normal Curve Equivalent (NCE) is a standard scale score with a National Average of 50 and a range of scores from 1 to 99.
NCE.BB is the abbreviation for Normal Curve Equivalent Basic Battery score.
NCE.TM is the abbreviation for Normal Curve Equivalent Total Mathematics score.
NCE.TR is the abbreviation for Normal Curve Equivalent Total Reading score.

[1]There are fewer students identified as receiving Chapter 1 services on the database than on end of the year reports submitted to the Department of Public Instruction.

As shown, there is a large difference in achievement between Chapter 1 and regular students. The gap between the two is most substantial in total reading and basic battery scores. The gap in mathematics is narrower, but not exceptionally so. Generally, the NCE variance between the two groups is close to one standard deviation, 21 points, and remains relatively stable from grade to grade.

Table 6 provides longitudinal Comprehensive Tests of Basic Skills (CTBS) achievement data on students who received Chapter 1 services during 1986-87 and 1987-88. Scores are provided for grades 2 through 8. The grades indicated on the table are the students' grade assignments in 1987-88.

TABLE 6
LONGITUDINAL NCE CTBS
READING, MATHEMATICS AND BASIC BATTERY SCORES
SPRING 1987 TO SPRING 1988

Grade Spring 88	Total Reading					Total Mathematics					Total Battery				
		Spring		Spring			Spring		Spring			Spring		Spring	
	N	87	N	88	Diff	N	87	N	88	Diff	N	87	N	88	Diff
2	549	46	564	46	0	580	53	585	55	+ 2	-	-	-	-	-
3	513	45	527	42	-3	531	60	530	49	-11	509	49	524	46	-3
4	506	42	503	43	+1	509	50	505	48	- 2	503	49	496	45	-4
5	412	42	411	40	-2	412	44	414	46	+ 2	408	43	407	41	-2
6	284	36	289	37	+1	291	44	287	43	- 1	283	38	284	40	+2
7	104	34	105	36	+2	106	40	100	41	+ 1	102	37	99	39	+2
8	63	36	63	36	0	63	43	61	43	0	61	40	60	41	+1

Note: Total number of students is constant from spring to spring tests. Total test area scores, however, are available only for those students who completed all subtests within an area. Hence, there are slight differences in student numbers between testing areas. Also, this analysis rounded NCE scores to whole numbers.

As shown, there are small positive and negative changes in NCE scores across all grades and test areas from 1987 to 1988. The greatest NCE gain is two points while the largest negative change is 11 points. NCE pre to post test differences of 0.0 indicate that students have maintained their relative position between tests. Positive NCE differences indicate that student growth has exceeded normal expectations.

Table 7 provides longitudinal CTBS achievement test data on 1985-86 Chapter 1 second grade students. Scores are provided for three years as the students progressed from second to fourth grade. Students promoted out of the program are identified as a separate group.

TABLE 7
LONGITUDINAL TEST DATA
CHAPTER 1 1985-86 GRADE 2 STUDENTS
1985-86 THROUGH 1987-88

		Chapter 1						Chapter 1 Students Promoted Out of Program						Achievement Difference		
Years	Grade	N	TR	N	TM	N	BB	N	TR	N	TM	N	BB	TR	TM	BB
85-86	2	857	46.7	852	60.2	848	50.5									
86-87	3	454	44.9	457	52.4	453	52.0	396	49.6	398	57.4	395	57.4	4.7	5.0	5.4
87-88	4	360	42.9	364	48.4	359	45.0	480	50.9	487	54.1	479	52.2	8.0	5.7	7.2

Note: The number of students is constant across years. Total test area scores, however, are available only for those students who completed all subtests within an area. Hence, there are slight differences in student numbers between testing areas.

Approximately 46 percent of the students were promoted out of the Chapter 1 program by the 1987 testing dates, March 16-27, and approximately 56 percent by the 1988 testing dates, March 14-25. The performance of students remaining in the Chapter 1 program fell, while that of students promoted out of the program rose slightly in reading and fell in total math and basic battery.

NONPUBLIC PROGRAM

Remedial Education and Diagnostic Services (READS), a private company, was founded in 1975 to provide off-premise services to nonpublic school students in Pennsylvania. Since that date, the company has served over 80,000 students throughout southeastern Pennsylvania, including Philadelphia, counties in northern New Jersey, and Florida. Since the 1988-89 school year it has also provided services to students attending nonpublic schools in the Christina, Red Clay, and Colonial attendance areas.

The company provides these services using eight mobile units specifically designed and equipped for educational instruction. The units, parked at curbside locations adjacent to the nonpublic school, avoid the logistics and nonproductive time incurred in bussing nonpublic school students to neutral sites. These units served seventeen nonpublic schools (Appendix A) in the three attendance areas.

Program

The READS program served 556 students in the seventeen nonpublic schools. Of that total, 453 received reading services, 87 received math services, and 16 received other instructional services. All students were scheduled for 130 minutes of remedial instruction per week in three 45-minute sessions or two 65-minute sessions. All but five minutes of each session was scheduled as time on task.

All instruction was provided in small group settings by eleven teachers (7.5 FTE) certified in either reading or elementary education and two trained aides operating under the direct supervision of a remedial teacher. This structure provided a pupil-teacher ratio of approximately one teacher for every six to seven students. Approximately half of the students received instruction biweekly while the remainder received instruction three times a week.

Instructional Design

The instructional program in use addresses the immediate problems the student is experiencing in class. It also directs efforts to remediation of underlying academic deficiencies that have been revealed primarily through standardized tests. An individualized educational plan (IEP) is developed for each student based on the results of the standardized test and the READS administered Academic Instructional Measurement System (AIMS), a criterion referenced assessment instrument administered at the beginning of the school year. The IEP is regularly updated based upon student performance.

Materials

Reading instruction follows the whole language approach and utilizes materials to supplement regular classroom instruction. These materials are selected from a variety of commercially available remedial materials that were developed to address the assessed educational needs of Chapter 1 students and fit the curriculum in use by the nonpublic schools. The materials are available to the public school Chapter 1 directors for review and approval prior to purchase. Additionally, READS staff produce their own supplemental materials in the normal course of instruction.

Mathematics instruction follows the classroom text used by the nonpublic school. Accordingly, students bring their text to the Chapter 1 class. Some supplemental materials, particularly manipulatives, however, are also used in the mathematics program.

Monitoring and Reporting Student Progress

The nonpublic school and the public school Chapter 1 directors are provided with pre-post test scores on each student to assess progress. Parents and nonpublic school personnel are also provided with quarterly anecdotal reports of student progress timed to coincide with the distribution

of the students' regular school report cards. Additionally, READS staff make a special mid-year effort through class announcements, flyers, and so on, to have parents participate in parent-teacher conferences. The READS teacher-coordinator estimates that approximately 30 percent of the parents participate in these conferences.

Staffing

READS staff are appropriately certified, screened and interviewed by the organization's management, and approved by the Chapter 1 directors of the respective public school districts. Although the organization's salary structure is lower than the public school districts, turnover is kept to a minimum by utilizing a benefit plan that includes company paid retirement, a co-payment health, dental and life insurance plan, sick and personal leave, attractive instructional settings and the opportunity for part-time work. Eleven teachers, two instructional aides, and a full-time teacher-coordinator are currently employed.

The teacher-coordinator holds a Master's Degree in Psychology of Reading, Pennsylvania elementary and reading certification, and informed this evaluator that she is one course shy of receiving a New Jersey supervisor's certificate. She also has extensive experience in providing remedial instructional services. She is responsible for teacher training and supervision and assists in the hiring of all professional staff. She may also provide substitute instruction as the need arises.

Mobile Units

The mobile units are custom designed for their function and meet or exceed all legally established safety requirements. Although they have the capacity to operate all electrical equipment with onboard generators, all but two sites have electrical service connections to Delmarva Power. The unit's

interior is appropriately divided, furnished, and supplied to meet the needs of its instructional function.

Internal Program Evaluation

READS performs an annual evaluation of their program. These evaluations include pre and post test data, interviews with classroom teachers and principals concerning their perceptions of the program, and a parent questionnaire regarding their program perceptions. Once compiled, this information is interpreted with the cooperation of Chapter 1 program directors. It is also shared informally, as requested, with the appropriate nonpublic school administrators and diocesan representatives.

Effects

This section provides a measure of program effects, namely student performance on a standardized achievement test taken in a spring-to-spring testing cycle. Like the public section of this report, it does not consider effects in the affective domain or other measures of student success.

Tables 8 and 9 provide longitudinal achievement data from the Spring of 1988 to the Spring of 1989 by attendance and service area. Table 8 shows achievement gains of students who received reading instruction while Table 9 provides the same information on students who received math instruction. Kindergarten students and students without valid spring to spring scores are excluded. The students who are included in the following tables account for approximately 62 percent of the total population in the three attendance areas.

TABLE 8
NONPUBLIC ATTENDANCE AREA
LONGITUDINAL CTBS NCE READING SCORES
SPRING 1988 TO SPRING 1989

Attendance Area A					Attendance Area B					Attendance Area C				
		Spring					Spring					Spring		
Grade	N	1988	1989	Difference	Grade	N	1988	1989	Difference	Grade	N	1988	1989	Difference
2	19	43.7	49.7	6.0	2	31	40.8	50.4	9.6	2	26	38.0	47.8	9.8
3	23	40.1	44.2	4.1	3	22	46.1	43.6	-2.5	3	25	40.2	42.7	2.5
4	18	38.7	43.6	4.9	4	24	41.7	47.2	5.5	4	26	40.4	38.1	-2.3
5	4	45.0	39.5	-5.5	5	16	47.0	45.3	-1.7	5	24	38.2	40.3	2.1
6	10	42.6	44.6	2.0	6	4	27.5	27.0	-0.5	6	12	34.3	39.3	5.0
7	-	-	-	-	7	-	-	-	-	7	7	32.5	33.5	1.0

TABLE 9
NONPUBLIC ATTENDANCE AREA
LONGITUDINAL CTBS NCE MATHEMATICS SCORES
SPRING 1988 TO SPRING 1989

Attendance Area B					Attendance Area C				
		Spring					Spring		
Grade	N	1988	1989	Difference	Grade	N	1988	1989	Difference
2	8	34.6	51.5	16.9	2	3	23.3	23.0	-0.3
3	5	41.0	52.8	11.8	3	11	28.4	45.0	16.6
4	6	42.8	56.1	13.3	4	10	26.7	46.8	20.1
5	5	34.6	42.4	7.8	5	1	27.0	55.0	28.0
6	3	45.6	49.6	4.0	6	6	19.5	40.8	21.3
7	2	32.0	48.5	16.5	7	2	23.0	41.0	18.0

Note: Attendance Area A did not have mathematics compensatory programs.

As the tables show, there is a major difference in effects between the mathematics and reading programs. There is little difference in reading performance between programs. With the exception of grade 2, gains are modest or occasionally negative.

PROGRAM SUMMARY

Chapter 1 is a major federal effort to provide the states with the fiscal resources necessary to meet the special needs of educationally disadvantaged children. In Delaware, the program is viewed as an integral part of the instructional process and serves thousands of students on a weekly basis. As such, it continues to have a strong impact on our educational system.

Several features of the Delaware Chapter 1 programs were described in this report as well as a measure of program effects. The more important findings are discussed below. Where possible, Delaware program findings are compared to those of the Sustaining Effects Study. This was a federally funded national study of Title I, the precursor of the Chapter 1 program, conducted for the U. S. Office of Education by System Development Corporation from 1975 through 1983.

- Males and minorities were disproportionately represented. This appears to be an artifact of the program rather than discriminatory selection procedures. First, elementary girls score higher on achievement tests than do boys. It therefore follows that based on achievement test criteria more boys than girls would receive Chapter 1 services. Second, longitudinal reports of performance on the State Assessment Tests indicate that minority performance is consistently below that of nonminorities. Minority Chapter 1 enrollments therefore appear to reflect a proper order of participant selection. The national Sustaining Effects Study reported similar findings.

• A substantial and consistent achievement gap exists between Chapter 1 and regular students. The gap may be partially explained by the program's enrollment cycle. That is, high performing students are "promoted out" of the program while low performing students are added to the program. This procedure tends to keep Chapter 1 scores low and relatively stable. A gap in achievement between Chapter 1 and regular students was also reported in the Sustaining Effects Study. The report noted that the gap could be partially explained by the changing composition of the Title I groups. The continuing gap, however, illustrates the difficulty Chapter 1 programs have experienced in their efforts to remediate the academic deficiencies of a number of particularly low achieving educationally disadvantaged students.

• Achievement scores of students who were in the program for at least two years showed little change. With the exception of the 11 point negative change in third grade mathematics, achievement gains and losses ranged from +2 to -4 NCE points. For the most part, such variance was negligible and indicates that students made about average academic progress. Similar findings were reported by the Sustaining Effects Study. The study noted that those students who remained in the program the longest started with the lowest scores and showed minimal gain. The report further noted that for this particular group of students, Title I, as then constituted, might not be very helpful.

• Achievement scores of students "promoted out" of the program rose in total reading and fell in total math and basic battery while those of students retained in the program fell in all areas. The Sustaining Effects Study reported somewhat similar findings. It noted that the less disadvantaged Title I students benefited from a year of services, were promoted out, and continued to make small gains. However, students in Title I for more than one

year tended to lose relative standing when they were removed from the program. As previously stated, those students who remained in the program the longest showed little gain.

• Students in nonpublic Chapter 1 mathematics programs[2] show greater achievement gains than those in the reading programs. Results of the Sustaining Effects Study parallel this finding. The study noted that across all grades Title I was considerably more effective in math than reading. This may be an artifact of the discipline however rather than the program. Unlike reading, mathematics is related primarily to schooling and may therefore be more amenable to instruction of skills directly assessed by standardized achievement tests.

• Overall, students in Chapter 1 programs seemed to show the greatest achievement gains in the primary grades. The Sustaining Effects Study similarly reported that Title I reading programs were somewhat effective in grades 1, 2, and 3 but not effective in grades 4, 5, and 6. As previously noted, Title I mathematics programs are more effective than reading programs across all grades. It would appear that early intervention strategies are the most effective means of ameliorating the achievement deficiencies of educationally disadvantaged students.

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[2]Service area information on public students is not recorded on the state test database.

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APPENDIX A

Holy Angels School
St. Elizabeth's Elementary School
St. Hedwig School
St. Peter's Cathedral School
Faith City Christian School
Holy Spirit School
Our Lady of Fatima School
St. Peter School
St. John the Beloved School
St. Paul's School
St. Thomas The Apostle School
St. Catherine of Siena
St. Anthony of Padua
Christ Our King School
Corpus Christi School
St. Matthew's School
People's Settlement